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5                   **MECHANISM FOR REDUCING THE VULNERABILITY OF  
HIGH EXPLOSIVE LOADED MUNITIONS TO  
UNPLANNED THERMAL STIMULI**

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10                   **ABSTRACT OF THE INVENTION**

15                   A new mechanism substantially reduces the vulnerability of explosive load  
munitions to thermal stimuli, such as fire or heat during transport and storage,  
thus enhancing personnel safety and the survivability of adjacent munitions.  
The mechanism includes a threaded fuze adapter made of plastic and having a  
melting temperature that is lower than the auto-ignition temperature of the  
explosive. The adapter secures a fuze or metal closing plug to an explosive  
loaded projectile and is designed to permit venting of combustion gases through  
the nose of the projectile upon auto-ignition of the explosive, thereby preventing  
detonation of the explosive and fragmentation of the projectile body. A plastic or  
metal ring is utilized to support the body of an explosive loaded projectile within  
a fiberboard packing tube, thus allowing the fuze to readily separate from the  
projectile body upon the melting of the plastic threaded fuze adapter and  
subsequent combustion of the explosive during an unplanned thermal stimulus  
event. An intumescent coating is deposited on the metal ammunition container  
that is used to package explosive loaded cartridges, to reduce the rate of  
thermal stimuli to the munitions, thereby ensuring that the plastic fuze adapter  
of the present invention reaches its melting temperature prior to the explosive  
attaining its auto-ignition temperature.